United States Patent [19]

Wyeth et al.

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[54] **PROCESS FOR PREPARING A HOLLOW, RIB-REINFORCED LAMINATED STRUCTURE**

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Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 346,164, March 29, 1973, abandoned.

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[58] **Field of Search** ..... 264/89, 90, 92, 93, 94, 264/96, 98, 99, 294, 296, 248; 156/145, 221, 156, 285, 292, 245; 29/157.3 V, 421 R; 72/60–62; 425/387, 388, 387 B, 503, 504; 161/122, 123; 428/166, 167

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[57] **ABSTRACT**

The invention provides a process for preparing a hollow, rib-reinforced, laminated article by:

a. placing two sheets between opposing mold platens, the sheets being aligned such that the sheet surfaces oppose each other, at least one of the sheets being a thermoplastic material heated to its thermoforming temperature and at least one of the sheets being provided with grooves or integral projections which form fluid passageways, and at least one of the mold platens being provided with a mold caivty to form a shaped article having ribs;

b. closing the mold platens to contact the sheets; and

c. introducing a fluid into the fluid passageways to distend the thermoplastic sheet into its mold cavity forming a shaped article having ribs, while the sheets maintain contact in the nondistended areas.

34 Claims, 16 Drawing Figures